



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/066,099

02/01/2002

John B. Roes

0685-095

6030

20350

7590

08/28/2006

TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER

LEE, DAVID J

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

58

Office Action Summary	Application No.		Applicant(s)	
	10/066,099		ROES ET AL.	
	Examiner		Art Unit	
	David Lee		2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6/23/2006 have been fully considered but they are not persuasive.

Applicant argues that Dubois does not teach the limitation of “selectively reflecting the IR transmit signal by opening and closing the reflector according to a response code of the day (RCOD)”, referring to the “responder optical head” of Dubois. Contrary to applicant’s interpretation of the rejection of Dubois, it is noted that in the Office action, examiner does not point to the “responder optical head” as an anticipated feature of the claimed limitation. Instead, examiner points to the restrictive filter (18 of Fig. 1; see also Office action, pg. 3, lines 17-20) of the retroreflection system (10 of fig. 1) to read upon, in part, the claimed limitation “selectively reflecting the IR transmit signal by opening and closing the reflector according to a response code of the day (RCOD).” The filter 18 is placed in front of the retroreflection system “to restrict transmission to the laser wavelengths that may be used as a pump beam and the response emissions wavelengths from the laser paint” (col. 6, lines 45-53; note that the function of the filter to “restrict transmission” reads upon the limitation “opening and closing” since the filter is “open” for certain wavelengths and “closed” for other wavelengths). Furthermore, Dubois also cites that “the filters 18 are transmissive for both the wavelength of an interrogating laser beam 7 and the wavelengths that can be emitted from the laser paint coating” (col. 5, lines 21-24). In other words, the combat response unit (10 of fig. 1) selectively filters the signal according to a response code of the day (RCODs could be, e.g. “the wavelength of an interrogating beam 7” and “the wavelengths that can be emitted from the laser paint coating”, col. 5, lines 21-24).

Art Unit: 2613

Therefore, it is the examiner's position that the selective retroreflection system of Dubois reads upon the limitation of "selectively reflecting the IR transmit signal by opening and closing the reflector according to a response code of the day (RCOD)."

Additionally, applicant argues that Dubois does not teach a transmitted code of the day (TCOD) and a response code of the day (RCOD). However, it is noted that the "code" in the identification system of Dubois is the *wavelength* of the signal, which is used to distinguish whether a target vehicle is "friend" or "foe" – i.e., if a target vehicle does not retroreflect and transmit at the proper wavelength, the interrogatory unit will identify the vehicle as "foe" (see also col. 4, lines 7-29). Dubois clearly indicates that "the emissions of laser paints on the coated surfaces can be tuned to *a selective wavelength or combination of wavelengths* which make up *a code of the day* for identification purposes" (col. 4, lines 4, lines 58-61, emphasis added); the wavelength of the transmitted signal (7 of fig. 1) is the TCOD and the wavelength of the retroreflected signal (8 of fig. 1) is the RCOD.

Applicant further argues that Dubois fails to teach the step of "*combining* the received RCOD with the TCOD to identify the combat response unit as friend or foe" (emphasis added). Applicant does, however, concede that Dubois *compares* the received RCOD with the TCOD to identify the combat response unit as friend or foe. Since the output result of identifying the combat response unit as friend or foe is the same as the claimed limitation, it is the examiner's position that the word "comparing" can be broadly and reasonably interpreted to read upon the word "combining."

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dubois et al. (US Patent No. 5,966,227).

Regarding claims 1, 11 and 31, Dubois teaches a system for combat identification as friend or foe (IFF) communications comprising: a combat interrogatory unit (20 of fig. 2; left half of fig. 1) comprising projector means for projecting an infrared transmit signal (1 of fig. 1) including a transmitted code of the day (the wavelength of IR signal 7 is the TCOD; note also col. 6, lines 53-67), receiver means for receiving a reflected IR transmit signal (2 of fig. 1) including a response code of the day (col. 4, lines 58-61), and means for combining the received

Art Unit: 2613

RCOD with the TCOD to identify the source of the reflected IR transmit signal as friend or foe (4 of fig. 1; col. 4, lines 21-29: the TCOD and RCOD are compared to determine the interrogation status of the target unit; i.e. - if the wavelengths are the same, the target is a foe, and if the wavelengths are different, the target is friendly; see also col. 5, lines 45-52); and a combat response unit (right half of fig. 1; 30 of fig. 2 – the combat response unit is mounted on the head of the vehicle) comprising sensor means for receiving a projected IR transmit signal including the TCOD (10' of fig. 1), retroreflector means for reflecting an incoming IR transmit signal generally back along the incoming path thereof (10 of fig. 1; see also col. 5, lines 22-43), obturator means for obstructing the retroreflector means to prevent reflection thereby (18 of fig. 1), and means for opening and closing the obturator means according to the RCOD (col. 6, lines 45-67: the obturator/filter restricts transmission if the laser wavelengths, i.e. the RCOD, is used as a pump beam). Dubois does not expressly disclose that the combat response unit is helmet-mounted. However, Dubois does suggest that the system can be implemented in ground-to-ground communications (col. 1, lines 40-42). Furthermore, mounting combat response units on helmets for interrogatory purposes is well known in view of admitted prior art. This is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of official notice. It would have been obvious to a skilled artisan at the time of invention to mount the combat response unit of Dubois on a helmet in order to provide effective interrogatory procedures for infantry.

Regarding claims 2, 12, 23, 24, and 32, Dubois teaches the limitations as applied to the previous claims including means for combining the received TCOD with a second stored COD to produce the RCOD (col. 4, lines 52-61) but does not expressly disclose means for combining a

Art Unit: 2613

first stored code of the day with a randomly-generated number to produce the TCOD. However, the technique of periodically and randomly generating codes from a stored database is well known and usually necessary in military applications, in view of admitted prior art. This is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of official notice. It would have been obvious to a skilled artisan at the time of invention to periodically generate the TCOD by using a random number with a stored code in order to prevent communication interceptions and to maintain covert operations.

Regarding claim 3, 7, 13, 25, 27, Dubois teaches the limitations as applied to the previous claims but does not expressly disclose means for deactivating the combat response unit responsive to a doffing of the helmet. In view of admitted prior art, this feature is well known in the art. This is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of official notice. It would have been obvious to a skilled artisan at the time of invention to provide means shutting down the combat response unit when not in use in order to save power and to prevent complications.

Regarding claims 4, 8, 14, 26, 28, 29, Dubois teaches the limitations as applied to the previous claims but does not expressly disclose means for accepting biometric data at the combat response unit; and means for activating the combat response unit responsive to the biometric data. In view of admitted prior art, the use of security measures, such as biometrics, in military weapons is well known in the art. This is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of official notice. It would have been obvious to a skilled artisan at the time of invention to incorporate biometric capabilities for activation of the combat response unit in order to provide authorization access and strengthen security measures.

Regarding claims 6, 10, 15, 30, Dubois teaches the limitations as applied to the previous claims but does not expressly disclose means for generating an arrival quadrant signal representing the direction of arrival of the IR transmit signal. However, in view of admitted prior art, directional signaling is well known in military detection applications and could have been easily incorporated into the system of Dubois, since the combat response unit comprises multiple reception panels. This is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of official notice. It would have been obvious to a skilled artisan at the time of invention to incorporate a directional signal detector for locating a signal source in order to provide increased safety measures and effective communication.

Regarding claims 5, 9, 16, 33, and 34, Dubois teaches means for fixing the projector means and the receiver means to a weapon (the helicopter of fig. 1 is considered a weapon).

Regarding claim 17, Dubois teaches the limitations as applied to the previous claims but does not expressly disclose means for deactivating the combat response unit responsive to a doffing of the helmet. However, this feature is well known in view of admitted prior art. This is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of official notice. It would have been obvious to a skilled artisan at the time of invention to provide means shutting down the combat response unit when not in use in order to save power and to prevent complications.

Regarding claim 18, Dubois teaches the limitations of claim 17 but does not expressly disclose means for accepting biometric data at the combat response unit; and means for activating the combat response unit responsive to the biometric data. The use of security measures, such as biometrics, in military weapons is well known in view of admitted prior art.

Art Unit: 2613

This is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of official notice. It would have been obvious to a skilled artisan at the time of invention to incorporate biometric capabilities for activation of the combat response unit in order to provide authorization access and strengthen security measures.

Regarding claim 19, Dubois teaches means for fixing the projector means and the receiver means to a weapon (the helicopter of fig. 1 is considered a weapon).

Regarding claim 20, Dubois teaches the limitations of claim 11 but does not expressly disclose means for accepting biometric data at the combat response unit; and means for activating the combat response unit responsive to the biometric data. The use of security measures, such as biometrics, in military weapons is well known in view of admitted prior art. This is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of official notice. It would have been obvious to a skilled artisan at the time of invention to incorporate biometric capabilities for activation of the combat response unit in order to provide authorization access and strengthen security measures.

Regarding claim 21, Dubois teaches the limitations of claim 11 but does not expressly disclose means for generating an arrival quadrant signal representing the direction of arrival of the IR transmit signal. However, in view of admitted prior art, directional signaling is well known in military detection applications and could have been easily incorporated into the system of Dubois, since the combat response unit comprises multiple reception panels. This is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of official notice. It would have been obvious to a skilled artisan at the time of invention to incorporate a

Art Unit: 2613

directional signal detector for locating a signal source in order to provide increased safety measures and effective communication.

Regarding claim 22, Dubois teaches means for fixing the transmitter means and the receiver means to a weapon (the helicopter of fig. 1 is considered a weapon).

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lee whose telephone number is (571) 272-2220. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DL


KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER